

c) REMARKS

The claims are 1, 2 and 4-10 with claims 1 and 6 being independent. The subject the matter claim 3 has been added to claim 1 and claim 3 has been cancelled.

Reconsideration of the claims is expressly requested.

Claims 6-10 were deemed allowable over the prior art of record.

Claims 1-5 were rejected as obvious over Li '049 in view of Otani , EP '918. The Examiner argues that Li in Table 7 teaches values which, when substituted in the pending claim 1, yield ranges within the present claimed invention. Preliminarily, it should be noted that the Examiner refers to Tables 7 and 8 of Li '049. Table 8, however, describes layer-forming conditions regarding DC plasma and is, therefore, inappropriate for citation as prior art against the present invention in which RF power is applied.

Both the wider ranges and intermediate ranges described in Table 7 are far too broad to suggest the narrower range in claim 1 of the present application. If a calculation is carried out using the preferred ranges in Table 7, those skilled in the art will not obtain the conditions satisfying in claim 1 of the present application. Accordingly, the grounds of rejection are respectfully traversed.

In accordance with Applicants' calculation of  $P \cdot d$ , using the values of the broad range of Table 7, the calculated minimum value of  $Pd$  is  $(0.2 \times 133) \times 0.2 = 5.32$  (with 3-figure accuracy). Hereinafter, all the numbers in the recited calculations are accurate to 3 figures. The maximum value of  $P \cdot d$  is calculated as  $(50 \times 133) \times 10 = 6.65 \times 10^4$ .

On the other hand, in view of the dilution ratio, the value of  $M$  in the broad range of Table 7 is in 0.00833 through 9.99. Accordingly, the value range " $80M + 200 \leq$

$P \cdot d \leq 160M + 333$  of the present claimed invention is " $201 \leq Pd \leq 334$ " when  $M=0.0033$  and is " $999 \leq Pd \leq 1390$ " when  $M=9.99$ . As noted above the calculations are valid to three figures.

Thus, in Li '049, a  $P \cdot d$  range greater than 60,000 (5.32 - 66,500) is calculated based on based on Table 7 values. This is extremely broad, when compared to the range of the present invention " $80M + 200 \leq Pd \leq 160M + 333$ " which has a scope of less than 1000 at most, i.e., (201 - 334) and (999 - 1390). Consequently, the limitation of " $80M + 200 \leq Pd \leq 160M + 333$ " is not suggested based on the broad range of Table 7.

According to Applicants' calculation of  $P \cdot d$ , using the value of the intermediate range of Table 7, the minimum value of  $P \cdot d$  is  $(0.5 \times 133) \times 0.5 = 33.3$  with accuracy to 3-figures. The maximum value of  $P \cdot d$  is  $(20 \times 133) \times 4 = 1.064 \times 10^4$ . Therefore the range of  $P \cdot d$  is 33.3 - 10,640. The spread in the range is  $> 10,000$ .

On the other hand, in view of the dilution ratio, the value of  $M$  in the Table 7 intermediate range is in 0.0477 through 3.99. Accordingly, applying that to the instant claimed value range " $80M + 200 \leq Pd \leq 160M + 333$ " a  $P \cdot d$  range of " $204 \leq Pd \leq 341$ " is obtained when  $M=0.00477$ ; and a  $P \cdot d$  range of " $519 \leq Pd \leq 971$ " is determined when  $M=3.99$ .

Thus, a spread in the  $P \cdot d$  range of more than 10,000 is obtained based on the intermediate range in Table 7. This is extremely wide in comparison with the corresponding  $P \cdot d$  range of the present invention " $80M + 200 \leq Pd \leq 160M + 333$ " which has a spread of less than 500 at most (519-971). Consequently, the limitation of " $80M + 200 \leq 160m + 333$ " is not suggested from the values of the intermediate range of Li in Table 7.

According to Applicants' calculation  $P \cdot d$ , using the value of a suitable range of Table 7, the minimum value of  $P \cdot d$  is  $(6 \times 133) \times 1.2 = 958$  with a 3-figure accuracy. The maximum value of  $P \cdot d$  is  $(12 \times 133) \times 2.5 = 3.99 \times 10^3$ . The spread is 958 - 3,990.

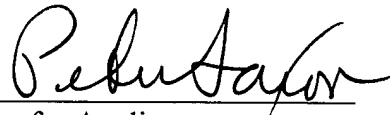
On the other hand, in view of the dilution ratio, the value of  $M$  in the suitable range is 0.976 through 2.49. Accordingly, the instant value range " $80M + 200 \leq Pd \leq 160M + 333$ " is " $278 \leq Pd \leq 489$ " when  $M=0.976$  and is " $399 \leq Pd \leq 731$ " when  $M=2.49$ . Consequently, with respect to the suitable range of Table 7, the  $P \cdot d$  value (i.e., 958 - 3,990) is never within the  $P \cdot d$  range of " $80M + 200 \leq Pd \leq 160M + 333$ " (i.e., 278 - 489 or 399 - 731).

Otani EP '049 discloses a value satisfying an inequality regarding  $Pd$ . The value, however, is merely related to a system with a distance between electrodes of 4.5 cm and does not suggest claim 1 of the present application providing a suitable  $Pd$  scope at a shorter distance between electrodes (0.5 - 3 cm).

Accordingly, it is submitted that none of the references, whether considered alone or in combination, discloses or suggests the present claimed invention nor renders it unpatentable. The references, as combined, fail to raise a prima facie case of obviousness and, accordingly, it is submitted that the claims should be allowed and that the case should be passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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